

Illuminated Aliens

by

Martyn J. Fogg.

Aliens Sighted in Blackpool!

CONTACT *does* have some non-North American members, although all but one declined to attend CONTACT IX other than in remote, e-mail, form. One solitary Brit (myself) made it across the Atlantic to show up at the conference. Whilst this qualified me for the honour of drawing the raffle, my main reason for coming was to gather some experience of COTI in advance of participating in a trial alien design effort being planned for *Illumination*, the UK Easter science fiction convention.

This year, the Eastercon took place at the Norbreck Castle Hotel in a very rainy and windswept Blackpool. Several hundred people attended, all looking forward to a four day, eight track, programme in which one was spoilt for choice. The staging of an 'Alien Design Workshop' at *Illumination* came at the instigation of CONTACT member John Bray, the convention's science coordinator. My role was to report to John how the Americans go about designing their aliens with nine years experience behind them and also to give a talk about my own CONTACT experiences to an *Illumination* audience.

Because all the organising had to be done at the last minute and because our effort was strictly a trial run, it was decided not to adopt the standard COTI framework. The duration of the workshop, which had to compete with many other activities, was just three hours, as opposed to three days, and the work of alien design teams was not cloaked in secrecy until a final role-played climax. It may be next year that we will attempt to stage a full fledged emulation of the CONTACT way of doing things.

The Panel.

We were very fortunate to have a magnificent panel of experts who gave a series of introductory talks before the practical work started and who were on hand to give advice as the design process unfolded. Reproductive biologist Jack Cohen started the ball rolling with a hilarious talk, illustrated by slides from his cartoon collection, about the evolutionary pitfalls of designing aliens, in particular those of the humanoid variety. Many of you will have heard of Jack, *especially* if you happen to have been in the same room as him for more than about a nanosecond! He helps science fiction writers design 'scientifically correct' aliens as a hobby. Some of his past co-creations have been the *Yilrane* from Harry Harrison's *West of Eden* series; the

We were very fortunate to have a magnificent panel of experts...

Phagors from Brian Aldiss' *Helliconia* series and the *Grendels* from Niven, Pournelle and Barnes' *The legacy of Heorot*. Jack seemed

particularly excited about the new aliens to be revealed soon in a second Heorot book, but was very guarded and mysterious about what was so special about them.

Our second speaker was the internationally known palaeontologist and science writer Dougal Dixon. Dougal first gained recognition in 1982 with the publication of his book *After Man* in which was presented a hypothetical zoology of the Earth, fifty million years into the future. It remains to this day an unequalled masterpiece, combining attention to detail with magnificent illustration and scientific and aesthetic plausibility. His later evolutionary thought experiments have been the books *The New Dinosaurs*, in which he speculated over how dinosaurs might have looked today had the asteroid missed 65 million years ago, and the bizarre, and overtly science fictional,

Man After Man. His talk, for me at least, was the best at the whole convention. Even Jack Cohen appeared completely stunned as Dougal took us through a slide show of some extra-terrestrial life-forms he had been working on some years before. They were by far and away the most impressive aliens I have ever seen, having been evolved in Dougal's mind from starfish-like ancestors. Although some possibilities in nature can be proved by mathematically defined laws of science, others cannot and to make a judgement one still uses gut instinct. Dixon's aliens looked weird, unearthly, but without gimmickry or 'clever' ideas which would render them impossible. One could sense the gut instinct of the whole audience was unanimous, these fantastic creatures really were *possible*, at one and the same time horrific and beautiful, seemingly poised on the brink of leaping out of the screen into reality.

Even Jack Cohen appeared completely stunned...

Next, it was up to me to deliver my account of CONTACT IX. Since I only had fifteen minutes, I concentrated mainly on COTI, describing the efforts of this year's two teams in the context of a three stage process of designing 1) *the planet*, 2) *the alien*, and 3) *the culture*. I think it went over pretty well, although it must be admitted that CONTACT IX's *Elvi*, with its perfect vertebrate body plan and overall 'Star Trek' appearance looked rather a forlorn sight in view of what had been said by the previous speakers.

The introductory session was wound up by a few brief words by biochemist Nick Larter and science fiction author James White. I was particularly interested to meet Jim, the author of the *Sector General* series, including novels such as *Hospital Station* and *Star Surgeon*, about a gigantic hospital capable of admitting patients from virtually any sentient race in the galaxy! He expressed considerable humility at being in the presence of such leading luminaries as Jack and Dougal,

claiming that he had always invented the alien races for his novels purely to please himself rather than to satisfy evolutionary principles. However, I felt his modesty was a little excessive - if one looks through *Barlowe's Guide to Extra-Terrestrials*, an illustrated catalogue of the most famous ET's from science fiction, White's sophont the *Cinruss* is more convincing than most.

Basically, the upshot of the panel discussion was that humanoid aliens are an understandable requirement for Hollywood film makers who have to fit actors into rubber suits. However, the probability of evolution independently producing another perfectly humanoid body plan on some other planet is so remote that a serious attempt to design a plausible alien has to be a little more imaginative about anatomy. It was with these thoughts that the 'Build An Alien' workshop finally got underway.

The Alien Factory.

The attendance at the workshop exceeded all expectations: over forty people wanted to participate and the room was packed. Any notion of just having two teams, COTI style, soon evaporated. For a while, it looked as if the entire venture was about to degenerate into chaos. However, eventually Jack, John and myself dragooned the crowd into six groups. The eventual plan we came up with was that we were going to design between us *six* alien races. At the end of each hour, each group would give a two minute presentation of their progress, aided if needs be with viewgraphs and plaster scene models. None of the panellists joined any of the teams, but instead were free to provide commentary and assistance on demand.

The groups took to the task with enormous enthusiasm, each huddled around a melting pot of ideas from which their sophont was

... we were going to design six alien races.

eventually to emerge. Personally, I found merely watching the creative process unfold almost as enjoyable as participating. I chipped in with an occasional piece of planetological expertise, but mostly I wasn't really needed. The process soon gained an almost unstoppable momentum of its own. The participants were learning without having to be taught - they were doing it the easy way - *easy* because it was *fun*.

At CONTACT IX the two COTI teams had three days to re-run Genesis; at *Illumination* we only had three hours. Nevertheless, what was achieved in this short space of time was quite impressive and in contrast to CONTACT IX, where the bulk of creative energy was allocated to designing the 'culture', our people concentrated more on the biology of their particular alien. All the races designed at *Illumination* were very strange - none even remotely human. Some teams really did get it together and design quite convincing life forms: plausible because their creature's anatomical and physiological adaptations sprang logically from their phylogeny (evolutionary history) which itself was created as an outcome of natural selection occurring in the chosen environment. Others lost their way a bit, designing *ex-cathedra* creatures, organisms freakish to the point of gimmickry, with body parts that were either physically impossible or inconsistent with its purported ancestry. However, the irrepressible Jack Cohen was always at hand to prevent any group from straying too far into comic book territory. Even he though couldn't prevent one lot from ending up with a completely daft creature with a 'carbon fibre' skeleton and the shape, locomotive ability and *brains* of a sidewinder missile! Well, it got a lot of laughs anyway...

Some teams did...
design quite convincing
life forms...

... the trees were
partially carnivorous,
dropping javelin-like
'seeds'...

Arboreal Slugs!

There is insufficient space here to go into detail about the various aliens designed at *Illumination*, even if I could remember it all. Memorable creations included a slug-like creature from a five gravity planet, living above the ground in a form of vegetation resembling a latticework of woody Gothic arches. They evolved sentience in conjunction with two kinds of communication: 'piping' by blowing air

through a dorsal organ situated behind the eyes and 'branch vibes' which involved rapid tapping on branches with their three anterior appendages. One would think that with gravity

five times that of Earth, it would be much safer on the ground. Not so in this particular ecological niche! The Gothic arch 'trees' were partially carnivorous, dropping heavy, javelin-like, 'seeds' down on any intruders under the canopy. Eventually however, the slugs learned to modify the trees for their own ends, rendering them harmless and adapting their arching form into dwellings which allowed living at ground level.

Flipping Colonials!

The most radically alien creature created at *Illumination* didn't live on a planet at all. Instead, one team thought they would try and design a free-fall life-form. Its habitat was a

Larry Niven-style gas torus, created by the leakage of the atmosphere of a moon orbiting a very hot and massive gas giant. I was very dubious about the realism of such an environment, but taking it as given, it was fascinating to see what the group

came up with. They designed a loosely knit colonial organism, consisting of a number of sub-units. These units had once been independent creatures, but were now co-existing in symbiosis, each performing a particular specialised task as part of the overall functioning of the colony. The open structure of the creature, and the fact that it

did not have to worry about gravity, allowed the team to come up with some lovely ideas which they illustrated with models. For instance it could change its shape at will, in order to better catch the wind, or to hunt and feed. In particular, when faced with danger, it could completely invert its structure via a simple topological transformation which rearranged sub-units specialised for defense from storage in the interior to form a protective outer layer. Other ideas included a method of genetic information transfer between different colonial species as a by-product of predation. In other words, when you ate something, you could also absorb and incorporate a few of the prey's sub-units as an alternative to digesting them. Jack Cohen was not too keen on this as it replaced his beloved evolution by natural selection totally. However, whether it could have worked is another matter altogether! The creature was finally elevated to sentience by combining imitative behaviour and 'complex game theory interactions' with a neural net-like nervous system and optical and magnetic senses. I didn't understand all of this, but there were some quite high-powered people in this group. At the end of three hours, they had actually succeeded in achieving space flight. It was quite simple really - light pressure alone was enough to allow solar sail equipped aliens to escape the upper bounds of the gas torus.

Frisbees & Triangles!

One team that was especially keen skipped lunch to go for a fourth hour of brainstorming. They had invented a planet with a powerful magnetic field, an elliptical orbit and a highly inclined spin axis which was prone to intense seasonal variation and violent atmospheric turbulence and oceanic storms. Their sophont evolved from a radially symmetric, frisbee shaped, creature with a row of water jets and suckers about its rim. It preyed on smaller versions, and was preyed upon by bigger versions, of a genus

... both races being as different from each other as they were non-human!

of bizarre organisms which looked like flattened triangles with jets at each corner. These triangles had the ability to extract energy from storm-driven ocean currents by spinning up. Organs capable of generating an electric field allowed the conversion of this spin energy into chemical energy or into an electric discharge for use in attack and defense. As the frisbees evolved into a more directional lifestyle, their morphology altered to incorporate some bilateral features. Eyes were retained in only the front and rear and some of the lateral suckers became modified into flippers. After evolving onto the land, they never completely lost their affinity with the sea. They became seasonal amphibians, returning to the waters during the Winter for their stored warmth, and to close their life cycle. Not only did they mate in the sea, but they also had developed an intimate

relationship with the triangles which they herded in large numbers. Eventually, this relationship became totally symbiotic, each frisbee actually incorporating a spinning triangle into its body, providing protection in return for electrical power and access to electromagnetic senses. I needed a lot more convincing that *this* would actually be possible. but it was a nice idea nonetheless. Like the free-fall colonials described above, the frisbees did manage to get into space by the end of the session, but alas time was not available for a COTI style role-played contact between them. It would have been fascinating, both races being as utterly different from each other as they were non-human!

All the participants and organisers of *Illumination's* 'Build An Alien' workshop greatly enjoyed the experience. As a trial run it was a resounding success and a great credit to John Bray for setting it up at such short notice. Hopefully, the seeds sown by CONTACT this side of the Atlantic will grow and we'll go bigger and better next Easter.